Analyzing the glass ceiling
policy use of data and statistics

Peter van den Besselaar

Vrije Universiteit Amsterdam
Teresa Mom Consultancy
Acknowledgement

H2020 GRANteD project

on gender bias in grant allocation and careers

2019-2023
The debate

- National newspaper **TROUW** publishes “academic careers of men go faster”

- National newspaper **NRC** does a ‘fact check’ and concludes that this is wrong: “academic careers of women go faster”

- Based a Rathenau Institute Report
Share women among new professors increases faster than expected.
Relevance

• Rathenau Institute = advisory role for parliament and government
• NRC = one of the leading newspapers

• Reinforcing the opinion that no glass ceiling exists
The idea: labor market approach

• More men than women in higher academic positions
  • Self-selection in the past: few women got PhD in the past
  • Implication: low supply of female candidates for those positions now

• Career from PhD till full professor takes on average 17 years (RI)
  • The expected share of women among newly appointed full professors
    = the share of female PhD degrees 17 years ago

• Glass ceiling exists only if the appointments remain lower than the expected number of appointments
Appointed versus expected female full professors: No glass ceiling
Problems

• Duration between PhD and appointment as full professor for men and women: 19 or 17 years?

• The RI study does not cover medical/life sciences (=almost 40% of the science system)

• Statistics
Data and method

• Analysis of RI based is on micro data (which they do not make available)

• Aggregated data from RI, some Statistics Netherlands data, micro data over the last years for one of the academic medical centers (VUMC)
Medical and life sciences

Career from PhD to full professor: 17 years

- Share female PhD VUMC - (5y MA)
- Share female PhD Netherlands - (5y MA)
- Share new appointed female full profs VUMC
- Share female full profs VUMC
- Share new appointed female full profs NL
- Share female full profs medical NL

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Glass ceiling in medical and life sciences

• Expected value = 50% of the appointed professors are female
• Realized value = 32% of the appointed professors are female
• Huge difference, suggesting a thick glass ceiling
And the other fields?

<table>
<thead>
<tr>
<th>19 years time lag</th>
<th>Hum</th>
<th>Soc Sci</th>
<th>Science</th>
<th>Techn</th>
<th>Agri/Vet</th>
<th>Total</th>
<th>Med</th>
<th>All</th>
<th>VU</th>
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</thead>
<tbody>
<tr>
<td>% female profs. appointed 2003-2015</td>
<td>26.7</td>
<td>21.6</td>
<td>12.8</td>
<td>11.5</td>
<td>14.0</td>
<td>18.9</td>
<td>‘16-‘18</td>
<td>27.0</td>
<td>31.0</td>
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<tr>
<td>% female PhDs granted 1984-1996</td>
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<td>13.6</td>
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<td>20.8</td>
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</table>

Realized (100%=neutral) 103

The average positive finding is the effect of the Simpson paradox

October 3, 2019
van den Besselaar - Gender Summit 2019
And with the corrected time lag

<table>
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<td>15.9%</td>
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<td>81%</td>
<td>134%</td>
<td>61%</td>
<td>97%</td>
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The almost neutral average finding again is the effect of the Simpson paradox
Conclusions

• Both the approach and method are useful – but the data do not support the conclusion that the glass ceiling has disappeared

• Policy advice organizations should be more careful in jumping to conclusions

• And newspapers should probably use more than one source when rapporting on disputed issues
Thanks for your attention

Questions / comments?